Methods of Applying Traction to the Lower Limb.

In most cases it is an advantage to provide means of skeletal traction before attacking the fracture-site.

Femur.

1. Thomas splint. Kirschner wire extension via tibial crest.
2. Brauns splint and skeletal traction.
3. Sliding-bed traction.

Tibia and fibula.

1. Watson Jones apparatus.
2. Thomas splint and flexion-piece, with Kirschner wire extension via os calcis.
3. Brauns splint and skeletal traction.
4. Distraction apparatus.

Two Final Words.

1. The treatment of all fractures is only just begun when reduction is secured and infection is controlled, and only ends when rehabilitation is complete.

2. The commonest single cause of non-union of any fracture is incomplete immobilisation and failure to immobilise for sufficiently long.

THE TREATMENT OF BURNS AND SCALDS (EXCLUDING CHEMICAL BURNS)

In view of the varieties of treatment, simple and elaborate, which have from time to time been advocated for the treatment of burns, and also the considerable controversy which is, at the present time, centering on this practical subject, members of R.A.M.C. hospitals and consultant members of civil hospitals in the Belfast area have met and considered what measures might be taken to unify and standardise the treatment of burns.

As a result of these meetings, the following lines of treatment are recommended :

First-Aid for Cases of Burns and Scalds Requiring Hospital Treatment.

Give Warmth.
Fluids (hot sweet tea).
Morphia in adequate doses, e.g., one-eighth to one-half grain for adults, noting times and dosage on label.

Avoid Undue exposure.
Clothing should only be removed by or under orders from the medical officer, and only when delay in transport to hospital is likely (this does not apply to clean burns or scalds).

Apply Clean dry lint to exposed areas of the burn. Greasy dressings should not be applied, as they make subsequent cleansing and treatment difficult.

General Measures.

1. *Primary shock.*—Onset immediate, recovery usual, may pass into secondary shock without recovery.
   Bed, minimum interference.
   Warmth (shock-cage or bottles).
   Morphia, one-eighth to one-half grain for adults. Children, heroin (under two, 1/96-1/24 grain).
   Fluid by mouth.
2. *Local treatment.*—(See below) when condition of patient permits.
3. *Routine.*—Hourly pulse, blood-pressure, and, in severe cases, hæmoglobin estimation.
   Four-hourly temperature.
4. *Secondary shock.—Time.*—Usually two to four hours; may be delayed; may follow primary shock without recovery.
   Signs.—The typical signs: note fall in blood-pressure and rise in hæmoglobin, e.g., 135 to 140 per cent.
   Treatment.—(a) *Plasma transfusion* (restore Hb. to normal).
   (b) *Fluid* with glucose as tolerated orally.
   (c) *If unable to swallow*: intravenous drip, saline alternating with glucose saline, forty drops per minute (adults).
5. *Toxæmia.—Time.*—Thirty-six to forty-eight hours. May even be later.
   Signs.—Pyrexia, fall in blood-pressure, vomiting, rising pulse, restlessness, delirium, albuminuria.
   Treatment.—Replace the chloride lost by intravenous drip, give D.O.C.A. (desoxycorticosterone acetate) ten mgm. four-hourly, or other adreno-cortical extract, control by fall in pulse-rate and return of chlorides in urine. Examine coagulum carefully, and treat as below.
6. *Sepsis.*—Sulphanilamide in addition to local treatment, e.g., two tablets four-hourly day and night for two days, then reduce dose.

Local Treatment.

First, second, and minor third-degree burns (excluding those of *face, hands, feet, and perineal region*).

Anæsthesia.—Gas and oxygen (no cyanosis) is ideal.
Avoid ether, as it causes exudation.

Exposure.—Expose small areas at a time, and so minimise heat-loss.

Cleansing.—*Normal saline* at body temperature on gauze, or *soap and water.*
No rough handling or scrubbing, but remove all raised epithelium, *especially at the edges.*
If possible, dry by hot air, e.g., electric hair-drier or cage.
Avoid ether, as it causes exudation and great heat-loss.

Coagulation.—(1) *Bettmann's technique.*— 1 per cent. gentian violet.
5 per cent. tannic acid.
10 per cent. silver nitrate.
1 per cent. gentian violet.

Apply at body temperature in the above order by dribbling from a piece of gauze, drying all the time.

N.B.—In multiple cases much time is saved by one team cleaning and the next coagulating, and thus remaining uncontaminated.

No dressings or clothes in contact with the coagulum.

Nurse on least burnt surface under large shock-cage.

After treatment.—Four-hourly application by nurse with fledget of wool on forceps of methylated ether, followed by gentian violet or sulphanilamide powder to edges and any moist or poorly coagulated areas. *Watch the edges* constantly.

2. *Compress method.*—Suitable for single limbs and smaller areas and for the least burnt surface in extensive burns. Cleanse as above. Apply gentian violet. Apply four layers of gauze impregnated with 5 per cent. tannic acid in water, or in extreme emergency as a powder.

FACE, HANDS, AND FEET.

Triple dye.—1 in 400 gentian violet
1 in 400 brilliant green } equal parts.
1 in 1,000 acriflavine

Cleanse as above, apply the dye. Leave uncovered. Reapply four-hourly.

SEVERE THIRD- AND FOURTH-DEGREE BURNS AND BURNS OF PERINEAL REGION.

Saline compresses.—Keep moist. Sulphanilamide as prophylaxis and for established sepsis. Treatment is directed towards the development of healthy granulations for early skin-grafting. Sulphanilamide powder or albucid paste are alternative methods.

Limbs require splinting (e.g., plaster shell) *and elevation to avoid contractures and œdema.*

Burns of any severity require rapid evacuation (on stretcher, irrespective of whether the legs are burnt or not).

REVIEW

HANDBOOK OF ANÆSTHETICS (formerly ROSS and FAIRLIE). Revised by R. J. Minnitt, M.D., D.A. Fifth Edition. 1940. Edinburgh: E. & S. Livingstone. Pp. 364. 12s. 6d. net.

DR. MINNITT, who has revised this well-known Handbook, states in his preface that he has included descriptions of "new methods and new apparatus which have been established as having a definite claim to recognition," and he suggests that more radical alterations will be made in the next edition.

The book gives a short account of basal narcotics, describes the various forms of inhalation anæsthesia, and deals briefly with local, intravenous and intraspinal anæsthesia. It contains valuable chapters on "Therapeutic Use of Oxygen, Helium, and Carbon Dioxide," "Analgesia and Anæsthesia in Obstetrics," "Choice of Anæsthetic," etc.

The subject matter is well arranged, accurately and clearly presented, and the large number of useful illustrations should prove most helpful to the student.